



REMARKS

Favorable reconsideration of this application, as presently amended, is respectfully requested.

Claims 1-34, 38, 40 and 42-46 are pending in the present application. Claims 35-37, 39, 41 and 47-53 have been canceled by the present amendment. Claims 42-46 have been withdrawn from consideration by the Examiner as being drawn to a non-elected invention. Claims 15-28, 29-32 and 33-37 were rejected under 35 USC 112, first paragraph, for the reasons set forth in the paragraph bridging pages 3 and 4 of the Office Action. Claims 1-14 were rejected under 35 USC 112, second paragraph, as being indefinite. Claims 38, 40 and 47-53 were rejected under 35 USC 102(e) as being anticipated by Shiota et al. '452. Claims 1-6, 8-19, 21-37, 39 and 41 were rejected under 35 USC 103(a) as being unpatentable over Shiota et al. in view of Kristy. Claim 7 and 20 were rejected under 35 USC 103(a) as being unpatentable over Shiota et al. in view of Kristy.

Referring to the rejection of claims 15-28, 29-32 and 33-37 under 35 USC 112, first paragraph, this rejection is based on the inclusion of language with respect to the images being related to multiple customer orders. The rejection sets forth that the original specification does not provide support for this limitation. Reconsideration of this rejection in view of the following remarks is respectfully requested. As an example, it is noted that claim 15 requires that the central processing unit be adapted to create batches of digital images from multiple customer orders, such that a batch of digital images may include digital images from different customer orders. With respect to this feature of the invention, reference is first made to page 10 of the specification which refers to virtual batching as being based on the fact that physical batches are not required as in conventional photofinishing labs. Within the context of the present invention, the work on an order can be performed in a manner that is most efficient from the standpoint of the output device or based on other considerations of the lab.

On page 11 of the original specification a table is set forth indicating six orders. A traditional batch is illustrated in the fourth column of the order while the last column of the order refers to the virtual or digital batch. As indicated in the last column of the table, it is clear that virtual batch X can include images from orders 1 and 5, while virtual batch Y can includes images from orders 2, 3, 4 and 6. As further described on lines 15-20 of page 11 of the specification, orders 1 and 5 can be placed into a sequence as a virtual batch X representing a printing job and orders 2, 3, 4 and 6 can be sequenced in a virtual batch Y representing another printing job. Therefore, with the use of the present

invention, the batches can be reduced from four in a traditional batch to two in a virtual batch.

Accordingly, it is believed that objected amendments to the claims find support in the original specification.

Therefore, claims 15-28, 29-32 and 33-37 are believed to be in compliance with the requirements of 35 USC 112, first paragraph.

Referring to the rejection of claims 1-14 under 35 USC 112, second paragraph, claim 1 has been amended to correct the antecedent basis informality with respect to the central processing unit.

Accordingly, claims 1-14 are in compliance with the requirements of 35 USC 112, second paragraph.

Referring to the rejection of claims 38, 40 and 47-53 under 35 USC 102(e) as being anticipated by Shiota et al., the present response cancels claims 47-53.

With respect to claims 38 and 40, first it is noted that claim 38 has been amended to include the limitations of dependent claim 39. Thus, claim 38 requires a processing unit that is adapted to create a virtual batch and is further adapted to analyze each of the obtained images for image correction based on at least reference image data. The reference to Shiota et al., is not believed to show or suggest the claimed processing unit having the features set forth in claim 38, including the concept of analyzing images for image correction based on at least reference image data in combination with creating a virtual batch based on at least a time necessary to complete image products so as to compile a sequence of completion of the output image products that permit efficient use of the output devices.

Claim 40 relates to a photofinishing method which comprises the steps of creating a virtual batch of received images based on at least a time necessary to complete output image products at any of a plurality of output devices, and comparing the received images to reference image data representative of an optimum image to permit manipulation of the received images based on the referenced image data. For the reasons noted above, the reference to Shiota et al. is not believed to show or suggest the concept of creating a virtual batch of images based on at least a time necessary to complete an output image product and further, comparing the images to reference image data so as to manipulate the images based on the referenced image data.

Accordingly, the reference to Shiota et al. is not believed to anticipate or make obvious the specific features required by claims 38 and 40.

Referring to the rejection of claims 1-6, 8-19, 21-37, 39 and 41 under 35 USC 103(a) as being unpatentable over Shiota et al. in view of Kristy;

and the rejection of claims 7 and 20 under 35 USC 103(a) as being unpatentable over Shiota in view of Kristy, the references to Shiota et al. and Kristy, whether considered individually or in combination, are not believed to anticipate or make obvious the specific features required by the claimed invention.

First, with respect to claim 1, it is noted that this claim relates to a method of producing digital image products in a photofinishing lab. In the method of claim 1, each image is associated with identification data and the image and identification data are sent to a central processing unit. The central processing unit of claim 1 analyzes each of the obtained digital images and compares the analyzed obtained digital images with reference image data representative of an optimum image. The central processing unit further creates batches of digital images from multiple customer orders and determines an output sequence of each of the obtained digital images to the output device based on at least the associated identification data.

Therefore, the central processing unit of claim 1 is adapted to create batches of digital images for multiple customer orders, determine an output sequence of each of the obtained digital images to output devices based on at least the associated identification data and compare and analyze the digital images with referred digital image data representative of an optimum image. As noted in the Office Action, the reference to Shiota et al. does not disclose the concept of optimizing the images in a central processing unit. The reference to Kristy which was cited to show a photofinishing system including the concept of optimizing images in a processor, is not believed to correct the deficiencies of Shiota et al. with respect to the claimed invention. The reference to Kristy discloses a host computer associated with a terminal. In Kristy, the host computer is adapted to store high resolution image files for printing. However, the reference to Kristy is not concerned with determining an output sequence of digital images to output devices based on identification data and creating virtual batches of images. Further, neither Shiota et al. or Kristy show a central processing unit which has the combined features of creating virtual batches, analyzing images with respect to comparing the images to referenced image data and determining an output sequence of the images to the output devices based on the identification data. Absent Applicants' disclosure, one having ordinary skill in the art would not have provided for the combined feature of the central processing unit as required by claim 1.

Claims 2 and 4-14 depend from claim 1 and set forth further unique features of the present invention which are also not believed to be shown or suggested in the applied references.

Claim 3 is an independent claim which is a combination of original independent claim 1 and dependent claim 3. In addition to the features of the central processing unit as set forth in claim 1, claim 3 requires that the identification data be product/service data indicative of a type of digital image product for the digital output image, such that the central processing unit modifies the obtained digital images in accordance with the product/service data and the output device to which the obtained digital image is to be sent.

As noted above and set forth in the Office Action, the reference to Shiota et al. does not disclose the concept of optimizing images in a central processing unit. Claim 3 sets forth that the central processing unit analyzes images with respect to comparing the images to digital data representative of optimum images; creates batches of images from multiple customer orders; determines an output sequence of each the obtained digital images to output devices based on at least the associated identification data; and modifies the obtained digital image in accordance with the product/service data and the output device to which the output digital image is to be sent. The references to Shiota et al. and Kristy, whether considered individually or in combination, do not show or suggest the combined features of the central processing unit as noted above, which is adapted to create virtual batches, determine output sequences of the images, and also modify the images in accordance with the product/service data and the output device to which the digital image is to be sent.

Accordingly, the references to Shiota et al. and Kristy, whether considered individually or in combination, are not believed to anticipate or make obvious the features of claim 3.

Claim 15 relates to a photofinishing lab for producing digital image products. Claim 15 set forth a central processing unit which receives digital images and identification data and is adapted to analyze the obtained digital images and compare each of the obtain digital images with reference image data representative of an optimum image. The central processing unit of claim 15 is further adapted to create batches of digital images from multiple customer orders, and to determine an output sequence of each of the obtained digital images to image output devices based on at least the associated identification data.

For the reasons noted above with respect to claim 1, the references to Shiota et al. and Kristy do not show or suggest a central processing unit that includes the features as noted in claim 15, and more specifically, a central processing unit that analyzes images for the purposes of creating an optimum image, creates batches of digital images and determines an output sequence of images to the image output devices.

Accordingly, Shiota et al. and Kristy are not believed to show or suggest the features of claim 15.

Claim 16 which depends from claim 15 sets forth additional unique features of the present invention which are also not believed to be shown or suggested in the applied references. More specifically, as noted above and described previously with respect to claim 3, claim 16 further requires that the central processing unit modify the obtained digital images in accordance with the product/service data and the output device to which the obtained digital image is to be sent. Neither Shiota et al. or Kristy show or suggest a central processing unit which creates virtual batches, determines output sequences, and modifies the images in accordance with product/service data and an output device to which the obtained digital image is to be sent. Accordingly, claim 16 is also believed to be allowable.

Claims 17-28 depend from claim 15 and set forth further unique features of the present invention which are also not believed to be shown or suggested in the applied references.

Claim 29 relates to photofinishing method for managing workflow in a photofinishing lab. Like claim 1, claim 29 sets forth features of the processing unit as analyzing images with reference image data representative of an optimum image, creating batches of images for multiple customer orders and determining an output sequence of each of the images to output devices based on at least the identification data. For the reasons noted above with respect to claim 1, the applied references are not believed to show or suggest the features of claim 29.

Claims 30-32 depend from claim 29 and set forth further unique features of the present invention which are also not believed to be shown or suggested in the applied references.

Claim 33 relates to a computer program product which requires the step of sending images and identification data to a processing unit. Like claim 1, claim 33 also requires that the processing unit create batches of digital images, and determine an output sequence of each of the images to output devices. Claim 33 further requires that the image product from the output device be combined with a related original order using the associated identification data. Claim 33 also requires that the identification data be product/service data indicative of the type of image product for the image, such that the images are modified in accordance with the product/service data and the output device to which the image is to be sent. For the reasons noted above with respect to claim 3, the applied references are not believed to show or suggest the features of claim 33.

With respect to claim 38, this claim relates to a digital photofinishing arrangement in which the processing unit creates a virtual batch of obtained images based on at least a time necessary to complete image products, compiles a sequence of completion of the output image products that permits efficient use of the output devices, and is adapted to analyze each of the obtained images for image correction based on at least reference image data. For the reasons noted above with respect to claim 1, the applied references are not believed to show or suggest a processing unit which has the combined features as required by claim 38.

Claim 40 relates to photofinishing method which comprises creating a virtual batch of images based on at least a time necessary to complete output image products, with the virtual batch being created based on a sequence of completion of the output image products. Claim 40 also requires the step of comparing images to reference image data representative of an optimum image and manipulating the images based on the reference image data. For the reasons noted above with respect to claim 3, the applied references are not believed to show or suggest the features of claim 40.

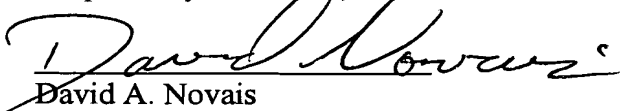
In the present amendment, Applicants have amended the claims to include features of dependent claims and have canceled claims. No new issues are raised by the present amendment and therefore, entry of the amendment is warranted.

Accordingly, the references to Shiota et al. and Kristy, whether considered individually or in combination, are not believed to anticipate or make obvious the specific features required by claims 1-34, 38 and 40.

In view of the foregoing comments, it is submitted that the inventions defined by each of claims 1-34, 38 and 40 are patentable, and a favorable reconsideration of this application is therefore requested.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page(s) is captioned "**Version With Markings To Show Changes Made.**"

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Version With Markings To Show Changes Made

In the Claims:

Claims 1, 3, 33, 38 and 40 have been amended as follows:

1. (Twice amended) A method of producing digital image products in a photofinishing lab, the photofinishing lab having a plurality of image obtaining devices for obtaining a plurality of digital images from multiple customer orders, a plurality of digital output devices for providing a plurality of digital image products based on the obtained digital images the method comprising the steps of:

associating each obtained digital image with identification data;
sending each of said obtained digital images and their associated identification data to [the] a central processing unit, the central processing unit analyzing each of the obtained digital images and comparing said analyzed obtained digital images with reference digital image data representative of an optimum image, said central processing unit further creating batches of digital images from the multiple customer orders, the images in each batch having similar identification data, such that a batch of images may include images from different customer orders, said central processing unit further determining an output sequence of each of said obtained digital images to said output devices based on at least the associated identification data;

providing a digital image product based on the obtained digital image at said digital output device; and

combining the digital image product from the output devices with a related original order from said original orders using the associated identification data.

3. (Amended) [A method according to claim 1,] A method of producing digital image products in a photofinishing lab, the photofinishing lab having a plurality of image obtaining devices for obtaining a plurality of digital images from multiple customer orders, a plurality of digital output devices for

providing a plurality of digital image products based on the obtained digital images the method comprising the steps of:

associating each obtained digital image with identification data;

sending each of said obtained digital images and their associated identification data to a central processing unit, the central processing unit analyzing each of the obtained digital images and comparing said analyzed obtained digital images with reference digital image data representative of an optimum image, said central processing unit further creating batches of digital images from the multiple customer orders, the images in each batch having similar identification data, such that a batch of images may include images from different customer orders, said central processing unit further determining an output sequence of each of said obtained digital images to said output devices based on at least the associated identification data;

providing a digital image product based on the obtained digital image at said digital output device; and

combining the digital image product from the output devices with a related original order from said original orders using the associated identification data;

wherein said identification data is product/service data indicative of a type of digital image product for the digital output image, such that the central processing unit modifies the obtained digital images in accordance with the product/service data and the output device to which the obtained digital image is to be sent.

33. (Twice amended) A computer program product comprising:
a computer readable storage medium having a computer program thereon which when loaded into a computer causes the computer to manage workflow in a photofinishing lab by performing the following steps:

associating images received at the photofinishing lab with identification data, each of the images being related to multiple customer orders;

sending each image and its associated identification data to a processing unit, the processing unit creating batches of digital images from said multiple customer orders, the images in each batch having similar identification

data, such that a batch of images may include images from different customer orders, said processing unit further determining an output sequence of each of said images to output devices based on at least the associated identification data;
providing an image product based on the image at an output device of said output devices which is appropriate for the image product; and
combining the image product from the output device with a related original order from said original orders using the associated identification data[.];
wherein said identification data is product/service data indicative of a type of image product for the image, such that the images are modified in accordance with the product/service data and the output device to which the image is to be sent.

38. (Twice amended) A digital photofinishing arrangement comprising:

a plurality of output devices, each of said output devices being adapted to produce a different output image product;

a plurality of image obtaining devices for obtaining images from multiple customer orders, at least one of said image obtaining devices being adapted to convert non-digital images of the obtained images into a digital format so as to place all of the obtained images in a common digital format; and

a processing unit which is adapted to create a virtual batch of said obtained images for forwarding to said plurality of output devices, said virtual batch including images from different customer orders and being created based on at least a time necessary to complete the image products, so as to compile a sequence of completion of said output image products that permits efficient use of said output devices[.];

wherein said processing unit is further adapted to analyze each of said obtained images for image correction based on at least reference image data.

40. (Twice amended) A photofinishing method comprising the steps of:

receiving images from multiple customer orders at a photofinishing lab;

converting non-digital images of said received images into a digital format, such that all of the images received at said photofinishing lab are in a common digital format;

creating a virtual batch of said received images based on at least a time necessary to complete output image products at any of a plurality of output devices, said virtual batch comprising images from different customer orders, each of said output image products being related to an associated received image from said received images, such that a sequence of completion of the output image products that permits efficient use of the output devices is compiled[.]; and

comparing said received images to reference image data representative of an optimum image and manipulating said received images based on said reference image data.